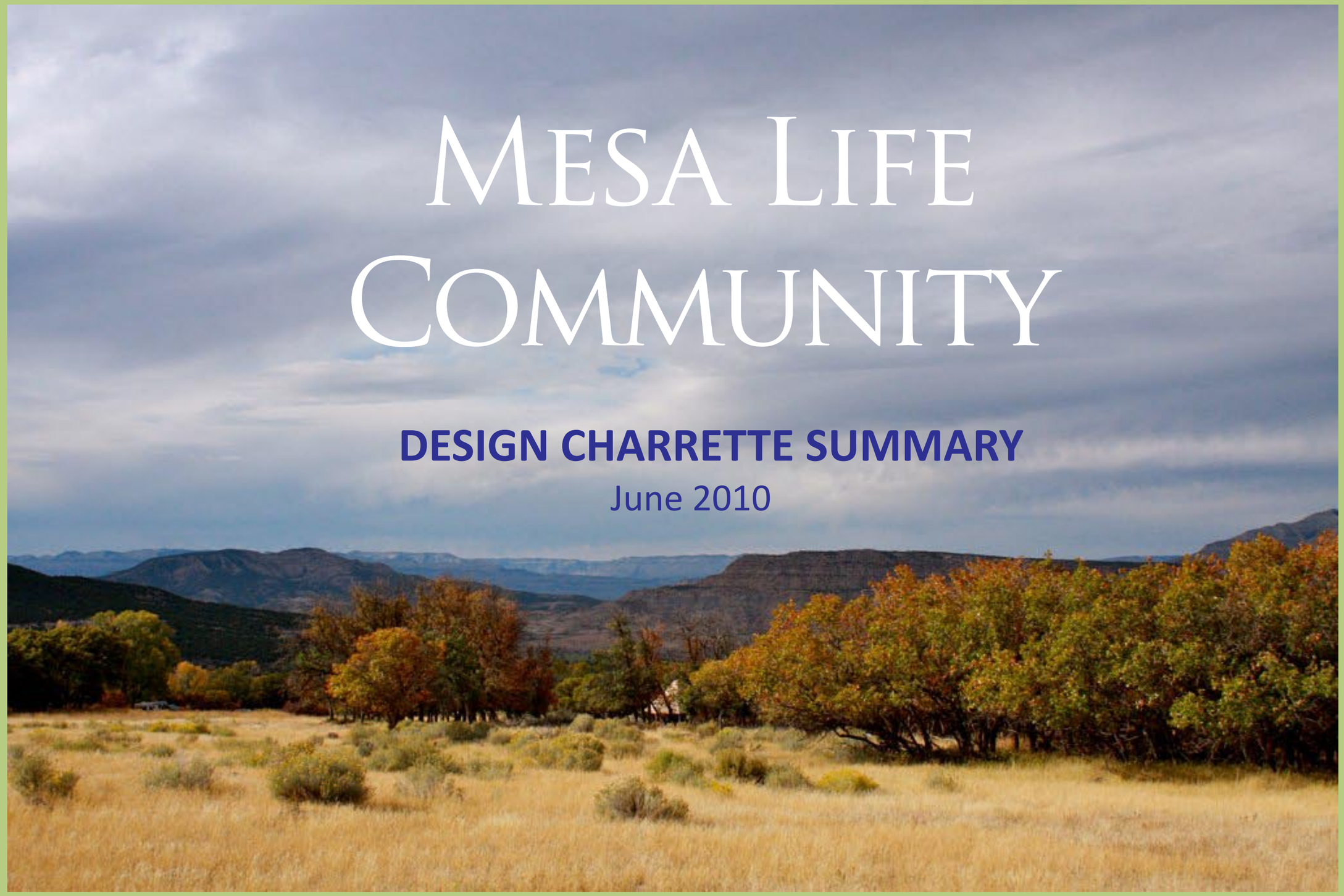
Mesa Life Community

DESIGN CHARRETTE SUMMARY

June 2010



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Prepared For:

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Meeting Record

To:	Mesa Community Members
From:	Gyles Thornely, Sara Tie, Scott McHale
Date:	July 16, 2010
Project Name:	Mesa Community
Meeting Date:	June 6, 2010
Start/End:	8:30 am- 5:00 pm
Copy To:	Jerome Ostentowski

Following are the meeting minutes of taken during the design charrette. The following people were present at the charrette:

Design Team: Gyles Thornely, Scott McHale, Sara Tie, Jerome Ostentowski
Community Members: Paige Liberman, Gary Weidner, Deanna Jenne', Michael, Kathy, Brad, Chris, Lenna, Denny

Items in **bold** print indicate what action is required, who will perform the action and the deadline to complete action.

CHARRETTE ACTIVITIES SUMMARY

- Preliminary Discussion
- Site Tour
- Lunch
- Site Plan Generation
- Architectural Diagramming
- Wrap Up and Next Steps

CONCEPT

This section summarizes the discussion of what the community will be up on completion. The ideas laid out here directed the discussions in the rest of the charrette topics.

- The most commonly used descriptions of the project are "intentional community" – (a community where people strive to live together with a common vision, sharing responsibilities and resources) and "full circle living initiative."
- The idea behind developing this community is not to "shut out the world, but to navigate it in a better way."
- The community will be a home for its residents while also providing a refuge for visitors and a place to demonstrate a different way of living.
- The initial idea was to build a pueblo, but county code made that difficult to achieve.
- When constructing this community "listening to and honoring the spirit of the land" is a paramount concern.

LAND DIVISION

The ability to subdivide the property directly affects the number of structures allowed. Land division options provided a framework for subsequent discussions of site plan and architecture.

- Preferred option for division of land to achieve desired number of dwelling unit
    - 35 acre split followed by a 5-acre agricultural split from each new parcel.
    - The Mesa life property will be eligible for an agricultural division in one year.
    - To achieve an agricultural division the property must be qualify as an agricultural in the eyes of the IRS.
- Purchasing an adjacent parcel of land to allow construction of a larger building was discussed. Gyles suggested that it may not be the most cost effective use of money, and that really the only thing you would actually be purchasing is privacy.

PROGRAM

A discussion of the capacity of the community and the specific features that the founding individuals wish to include provided the elements to be woven together through the generation of the site design and architectural concepts.

- The community will house 24-36 people, approximately half couples, half singles, and may grow.
- County code, as well as the uncertain future of access to the site limit the number of dwellings the community can legally construct.
- The design of the houses must be:
    - flexible to grow with the community
    - constructible in stages
    - straight forward to build
    - energy efficient
    - easy to maintain
- Each primary residence should include a kitchen
- A large outdoor space must be provided for the entire community to gather around a fire.
- There will be a "barn" that will function as something of a community center. Suggested activities for the barn include
    - Space for movement classes
    - A communal/commercial kitchen
    - A large communal dining area
    - Storage
    - Community office space
    - Day care
    - Spa facilities such as a sauna or Japanese soaking tub
- Agricultural production areas to provide for the community should be included on-site.
- Any additional living space in the community can be used as accommodation for certain visitors (e.g. an artist's retreat), or as a space for individuals contemplating joining the community.

SITE DESIGN

Information gained during the tour of the site, combined with base mapping generated before the meeting led to a clear selection of appropriate locations for the previously discussed programmatic elements.

- Development should be confined to the meadow so as to avoid areas difficult for construction, an example of such an area is the rocky area north of the stream. Building in the meadow also minimizes disturbance of the existing vegetation.

- Construction in the lower meadow must be avoided due to marshy areas where flow from this and several adjacent properties converges.
- Construction of the homes should be restricted to the north edge of the upper meadow to avoid areas with spiritual or ceremonial significance.

- The location of the “barn” was a point of debate:
  - Should it be located at the top of the meadow as a semi-public as well as a community facility?
  - Should it be brought to a more central location on the site for easier access by residents, with the added result that visitors are drawn further into the community?
  - Ultimately, due to the proposed size of the barn and the spiritual significance of the much of the south edge of the meadow, the “barn” had to be located at the top of the site.
- While the community was generally in favor of commercial-grade kitchens, whether to run an actual commercial kitchen was a point of discussion.
  - Can you operate a commercial kitchen and still keep your agricultural tax status?
  - Is one house going to have a bigger kitchen and operate the “commercial” aspects such as cooking for guests, canning, etc., or is the community center going to have it?
  - Do they even need a “commercial” kitchen or should they use the one being installed by Mesa?
- Phased development of homes and agriculture should begin adjacent to the well and radiate outward
- There was wide support for placing a parking area at the top of the site to remove cars from the community.
  - Parking should be well screened through a berm, or possibly even covered.
  - If parking is covered, the roofs could be sod or incorporate solar panels.

ARCHITECTURAL DESIGN

Architectural diagramming took place simultaneously with development of a site plan to create a model of design that would work within the parameters of the site and the county code, while meeting the requirements of the residents.

- One story construction is recommended by Scott and preferred by the community.
- Buildings must be oriented to maximize their passive climate control and, where possible, take advantage of views up the meadow.
- Structures will be largely built by residents.
  - The community is comfortable with hybrid construction methods.
- County code indicates that a kitchen is essentially what defines a residence. To comply with this and still house the residents in comfort, Scott recommended a pod-type design with modest living quarters radiating off a central kitchen and living area.
  - The pod construction idea resonated with the group, but the connecting hallways were a point of discussion:
- How long will they be?
- How warm will they be?
- How expensive will they be to build?
- Bathroom facilities were also a point of discussion
- Should each pod contain its own shower facilities?
  - Or should the central building that contains the kitchen also contain a central shower?
  - The idea of outdoor showers attached to each pod was very popular.

- While this is a demonstration community, individual privacy is still important. Small private areas for each family/individual should be included in the design.
- The County code on co-habitation, which dictates that no more than 5 unrelated people may live together in a residence, creates a hurdle in allotting quarters. The community must be conscious of that rule in dividing up living space among individuals.
- In order to get the unit count up, Accessory Dwelling Units (ADUs) could be added as extra pods to the primary residence. This ADU could, if needed, have its own kitchen.

AGRICULTURE

The programming for the new community includes agricultural production to provide for residents. Discussion included how best to accomplish this production and how best to integrate it into the design of the community.

- Food production will include controlled environment as well as traditional cropping.
- Inclusion of a “wood lot” to provide fuel for heating the community was also discussed.
- Jerome recommends a large-scale central garden vs. a small-scale garden associated with each pod.
  - Easier to maintain because one person is assigned the duty vs. everyone having to maintain their own garden.
  - Potentially easier to irrigate.
- Jerome also recommends a “raised bed” operation where, instead of digging down and amending the soil, you just pile soil up.
  - This is easier to initially install and also allows you to more easily control your soil quality.
- Jerome recommends a large, consolidated greenhouse for primary climate-controlled food production.
- However, a green house could be attached to the main building of each house to act as a “climate battery.”
  - The little greenhouses would only be producing salad greens or other simple edibles for each house.
  - The idea received overall but not unanimous support.
- Jerome indicated that several grant programs are available for the construction of greenhouses and hoop houses.
- The community is discussing branding and selling excess food products, as well as participation in the farmers market as a venue for outreach.

FIRE SUPPRESSION AND EMERGENCY ACCESS

Fire suppression systems are an important consideration when constructing with any density in a rural and semi-arid area such as the mesa. Integration of a fire suppression system into the design of the community is integral to ensure the safety of residents and visitors.

- Beyond the code (2003 International Fire Code) relating to density of construction, type and quality of property access, the access road will need to be improved to facilitate emergency access.
- The recommended location for development of the homes, adjacent to the stands of oak, raises fire concerns.
- The primary outstanding issue of fire suppression is : What will the fire marshal require?
- Fire suppression systems discussed included:
  - A fire pump in the creek
  - A retaining pond at the top of the site

GREY WATER AND UTILITIES

Basic services such as waste treatment, electricity and heat are integral for the comfort of residents as well as required by the county. How to provide these services in the most efficient and ecologically sensitive way was the primary topic of discussion.

- The community proposes to harvest as much runoff and waste water as possible for recycling and use in agricultural operations, while using as little as possible for waste treatment.
- There is a debate on what the county will accept concerning grey water and waste treatment systems.
    - o There is no existing precedent of the type of systems proposed for use in this community being approved on a large scale by Mesa County.
    - o There is some concern that they will be required to install a traditional septic system, even if they don't intend to use it.
    - o The community must discuss their options with the county as soon as possible, and en courage the county to be progressive in its thinking.
- Water collection and storage in above or below ground cisterns will probably be necessary for use during the dry seasons.
    - o There was discussion regarding whether to build or buy cisterns. Jerome indicates that building them is somewhat challenging, but could be do-able if the cost of a construction seminar was shared with other groups.
- Photovoltaic systems with battery banks are the proposed method for providing electricity. There are two general configurations to consider:
    - o Wherever there is a roof there is PV panel on it
    - o Installation of a consolidated array. The advantage of the array is that is could be clus tered together and near the ground, making it easier to service.
- The community wishes to rely primarily on passive heating in the winter, with wood stoves providing any extra heat necessary.
    - o There is a concern that the county will not accept this plan, and will require a backup propane system.
- The end of the discussion seems to be passive heating and cooling with wood stoves for additional heat
- with a propane backup.
- Hot water would be provided by solar, potentially with a propane backup.
- Vegetable oil run ovens were also discussed

END OF NOTES

Mesa Life Vision Statement

Mesa Life LLC was formed to purchase land and build homes as part of a community based project. We currently own 80 acres of land near Mesa, Colorado. The elevation is 6000 feet with a gentle northwest slope on the northwest side of the Grand Mesa. The land is partially pinyon-juniper forest, has two streams with riparian stands of scrub oak and cotton-wood, and has 15 to 20 acres of mixed grass meadows. First frost begins in early October last frost early May. Tempera-tures in the summer into the 90's, winter as low as 0 degrees, but hovering at night in the teens and days in the 20's and 30's.

We plan to build and have all garden activity in the meadows with four residences each having a central common area with kitchen, living room, dining room, utility room, pantry, guest room and bathroom. The common area will serve four fami-lies (individuals, couples, parents with children) each of whom will have their own private room or rooms connected to the common area. The private areas may be as small as 250 square feet for an individual up to 600 square feet for a couple with a child or two. The common area may be 1000 to 1400 square feet.

Community buildings planned are an indoor/outdoor kitchen of 600 sq. ft., community barn/social building 2000 sq ft, workshop/toolshed 600-800, garden shed, covered parking, areas, greenhouse, several one room studios, and a gateway house.

We are considering timber frame construction with clay/straw walls and earthen floors. Our soil consists of approximately 60 to 70 percent clay. At this point in our planning we are seeking assistance in design and/or construction in the following areas:

1. Foundation plans that use the least amount of concrete and steel.

2. Plans for an off grid photovoltaic power system for minimal domestic needs.

3. Passive solar space heating design with back up wood heat. We have considered:
    a. Interior walls and furniture made with adobe brick and/or cob for added heat storage.
    b. "Rocket" stoves vented through masonry seating/sleeping areas.
    c. Baseboard radiant hot water heaters or radiant floor heat using heat collected in solar collectors and/or wood stoves.
    d. Geothermal assisted space heating.

4. Solar heated with wood fire backup domestic hot water system.

5. Rain water collection and storage system for irrigation.

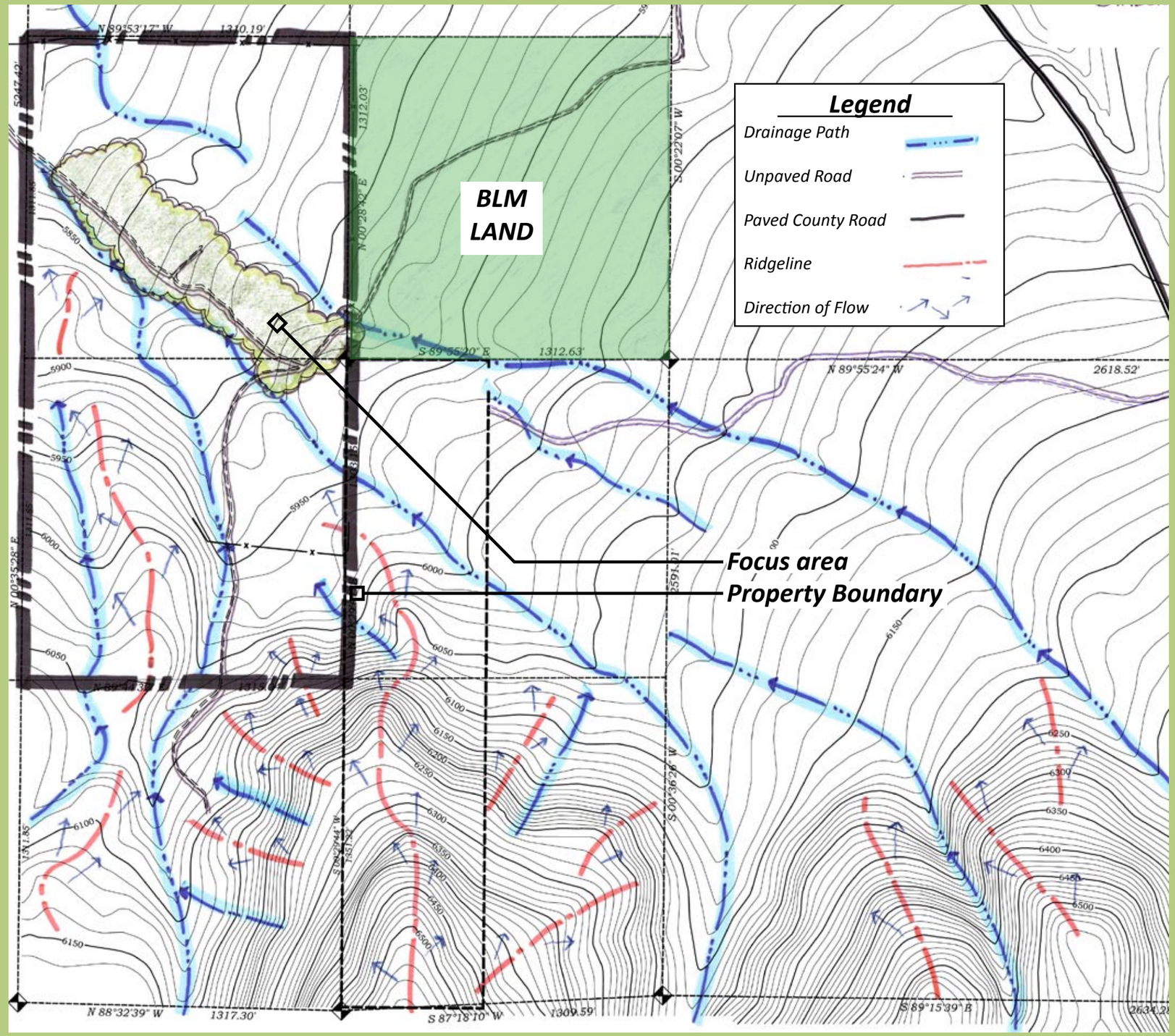
6. Greywater distribution system for irrigation.

7. Natural and benign insulation materials. We have considered:
    a. Pumice or scoria for foundation and floor insulation.
    b. Recycled newsprint and wool batting for ceiling insulation.

8. Kitchen Gardens, fruit trees, pond(s), forest gardens (berries), large milpa (corn, beans, squash). We want to be 75% self-sufficient with food.

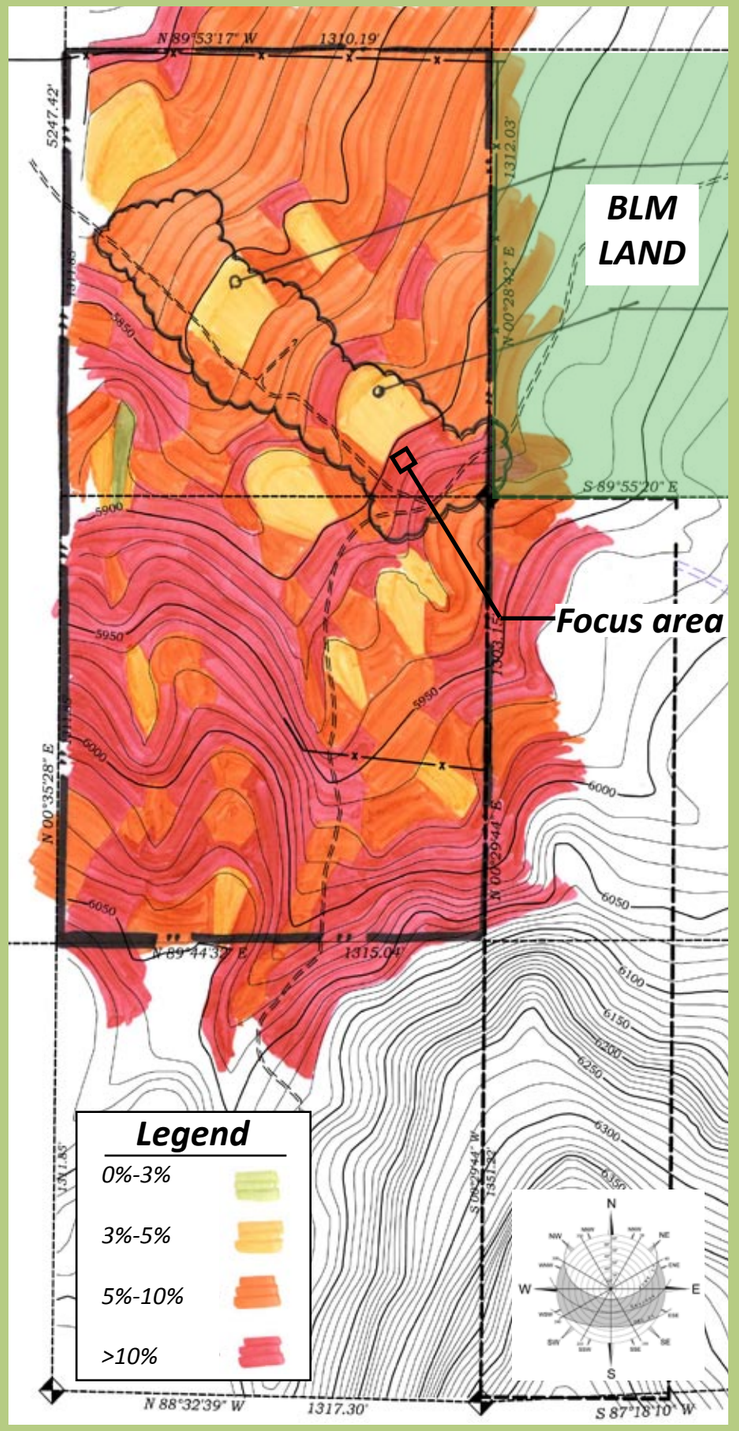
9. Chickens, maybe goat and a horse or two. We will get the majority of our meat from neighbors.

We are sensitive to our impact on the land and it is a semi arid climate so even though we want to have wood as our main source of back up heat we will want to build very well insulated buildings to conserve wood. If possible we would like to use no natural gas. We are willing to give up the convenience of always having hot water on demand.



Overall Hydrological Analysis
Analysis based on 10’ Contour Data

Not To Scale

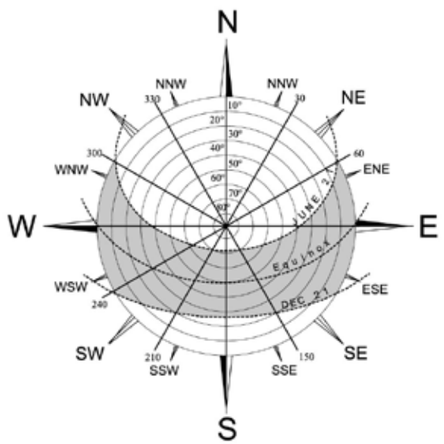


Overall Slope Analysis
Analysis based on 10’ Contour Data

Not To Scale

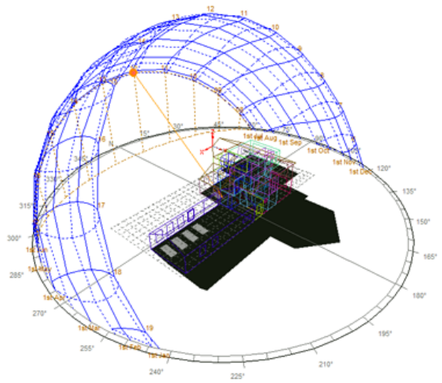
Legend

- 0%-3%
- 3%-5%
- 5%-10%
- >10%
- Drainage
- Ridgeline
- Unpaved Road
- Edge of Vegetation

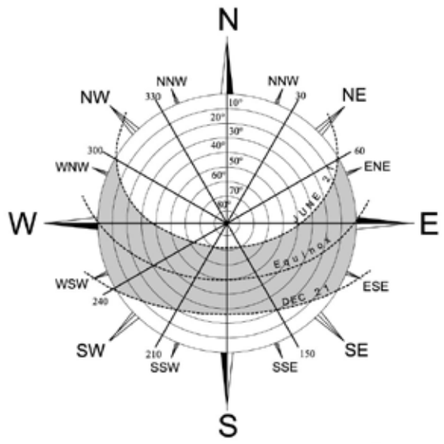


Focus Area Slope Analysis

Analysis based on 1’ Contour Data-Not To Scale

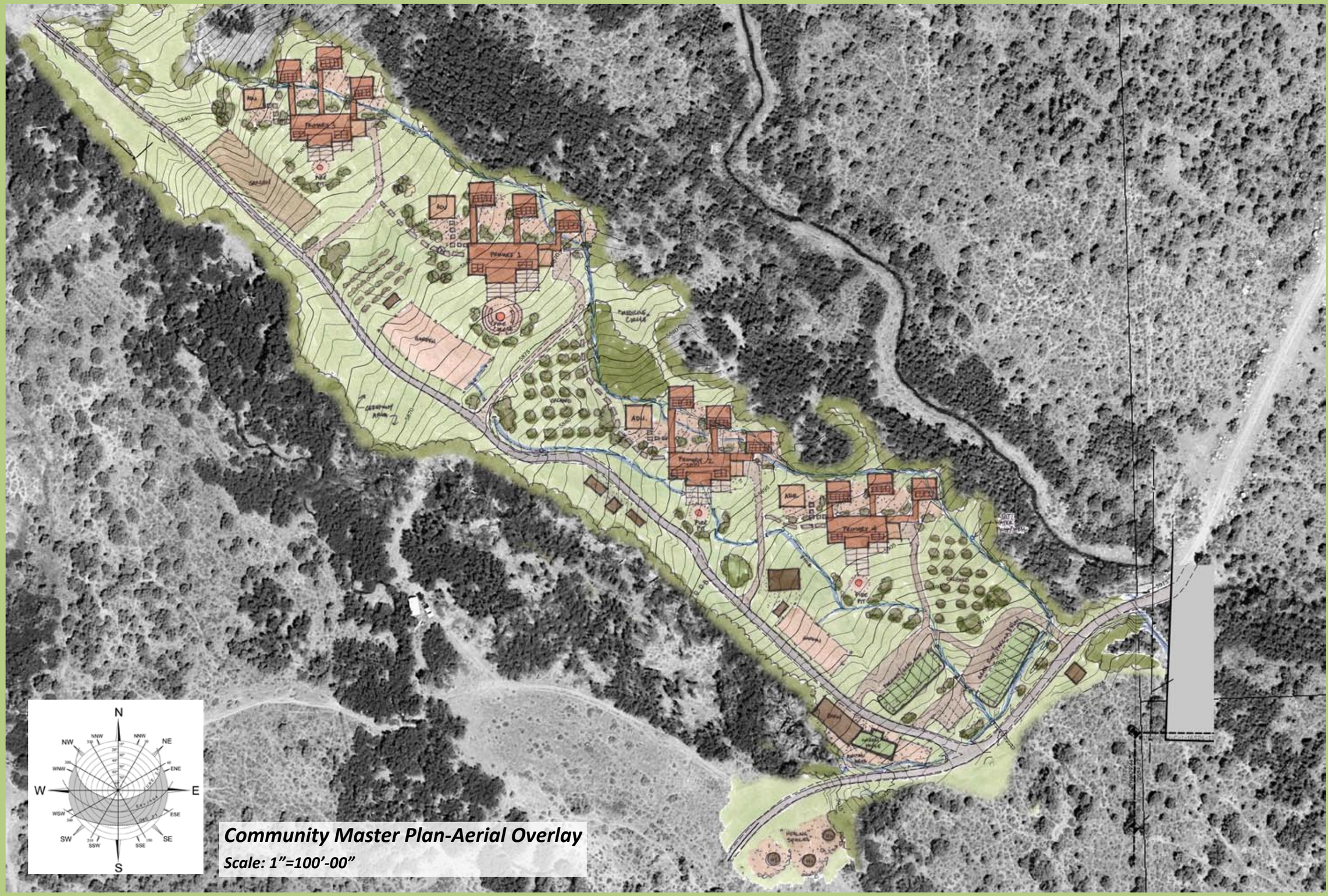


Sun Path Movement Diagram



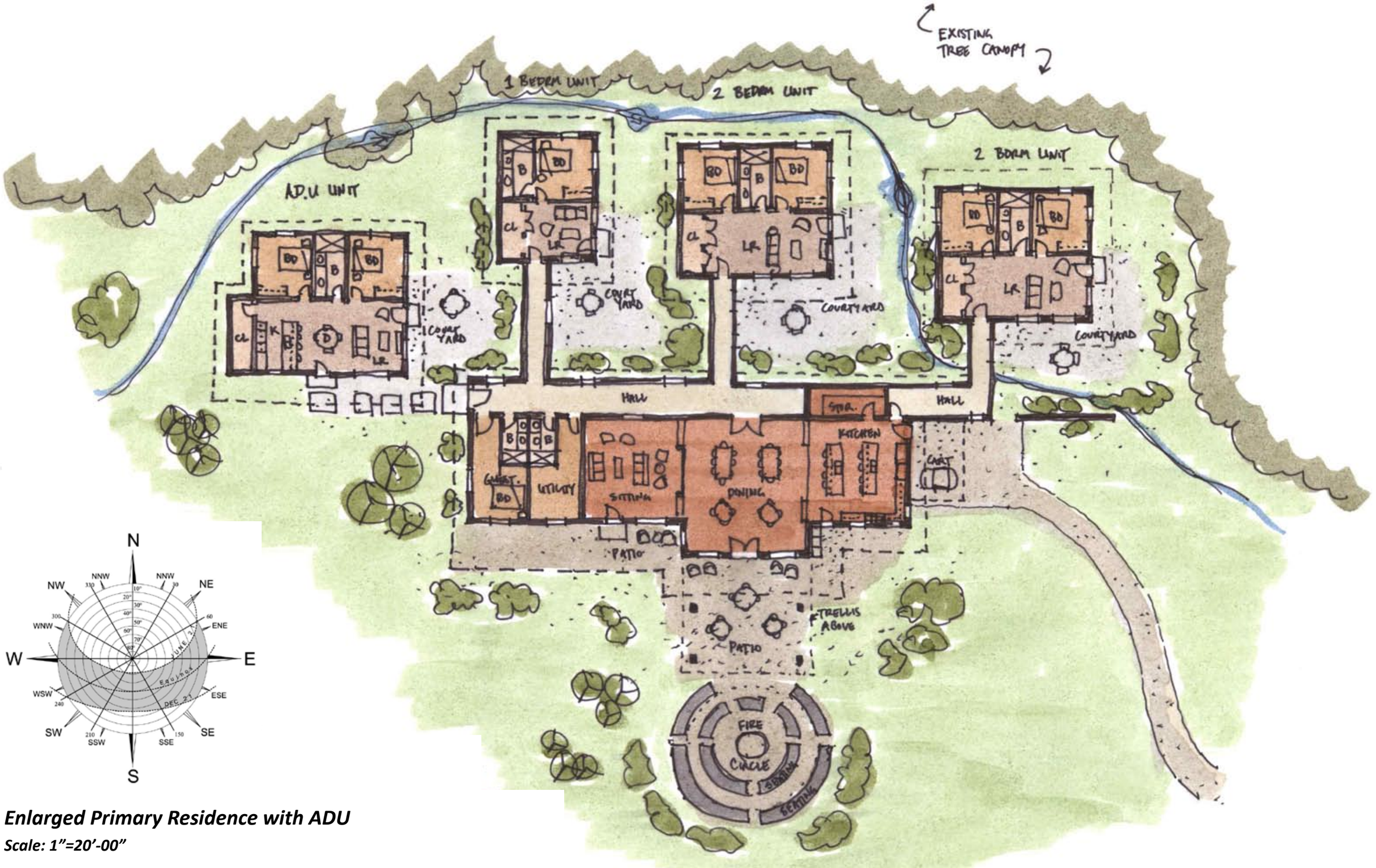
Community Master Plan

Scale: 1”=100’-00”



Community Master Plan-Aerial Overlay

Scale: 1”=100’-00”



Enlarged Primary Residence with ADU

Scale: 1”=20’-00”